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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,220

01/03/2006

Takashi Kamiya

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SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

SHECHTMAN, SEAN P

ART UNIT

PAPER NUMBER

2121

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,220	<b>Applicant(s)</b> KAMIYA ET AL.	
	<b>Examiner</b> Sean P. Shechtman	<b>Art Unit</b> 2121	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/1/08</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 21, 23, are objected to because of the following informalities: Referring to line 2, "inserting name" should be "inserting a name". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10, 13-16, 19 recite the limitation "the machining unit names specified on the machining shape tree" (for example, see claim 10, lines 11-12 of the instant application). There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, it will be assumed that the machining unit names specified on the machining shape tree is the machining unit names being specified on the machining shape tree. Claims 11, 12, 17, 18, 20, 22 depend from claims 10, 13-16, or 19 and therefore inherit the same deficiencies.

Claims 10, 13-16, 19 recite the limitation "the machining program names specified on the program tree" (for example, see claim 10, lines 14-15 of the instant application). There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, it will be assumed that the machining program names

specified on the program tree is the machining program names being specified on the program tree. Claims 11, 12, 17, 18, 20, 22 depend from claims 10, 13-16, or 19 and therefore inherit the same deficiencies.

Claims 21, 23, recites the limitation "the selected specified shape element" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, it will be assumed that the selected specified shape element is a selected specified shape element.

Claims 21, 23, recites the limitation "the corresponding machining unit" in line 3. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, it will be assumed that the corresponding machining unit is a corresponding machining unit.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 10-12, 14-18, 20, 22, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,219,055 to Bhargava et al (hereinafter referred to as Bhargava) in view of U.S. Pat. No. 6,584,373 to Guenther et al (hereinafter referred to as Guenther), and further in view of U.S. Pub. No. 2003/0195642 to Ragnini (hereinafter referred to as Ragnini).

Referring to claims 10-12, 14-18, Bhargava teaches a method, system and computer-readable recording medium that stores therein a computer program for

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plurality of machining units (Col. 6, lines 49-62; Figs. 4A, 4B, cut, drill), by using a program editing screen including

a machining shape tree on which a plurality of machining unit names indicating a machining shape of the machining unit, as a unit of machining in which continuous machining is performed with the same main spindle and with the same tool, is displayed hierarchically according to a machining order; (Figs. 4A, 4B; Col. 7, lines 11-45, graphical browser portion 64 and 64'),

a model display section in which a product model (Fig. 14; Col. 10, lines 35-45), a work model (Figs. 4A, 4B, Col. 7, lines 11-45, modeling portion 62 and 62') and a machining shape model corresponding to the specified machining unit (Fig. 13, Col. 10, lines 12-34) are displayed three-dimensionally,

an editor section in which machining unit data corresponding to the machining unit name specified on the machining shape tree is displayed to perform editing (Fig. 10, element 96; Col. 9, lines 44-55), the computer program causing the computer to execute:

displaying a machining unit corresponding to a cursor position in the editor section (Fig. 10, Rear Cut; Col. 9, lines 44-55) and in any one of the product model and the work model or both displayed in the model display section in a highlighted manner (Fig. 10, Rear Cut in element 64 is highlighted therefore highlighting the rear cut of element 62, see Col. 9, lines 44-55; Col. 8, lines 33-44; Col. 8, lines 13-32);

inserting machining shape information corresponding to a specified shape element required for forming the machining unit data with respect to the machining

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shape model displayed in the model display section in a cursor position specified in the editor section (Fig. 10, element 96, Rear Cut; Col. 9, lines 44-55; and/or Fig. 12, fillet features); wherein the inserting includes inserting machining unit data corresponding to the machining unit relating to the machining shape model specified in the model display section at the cursor position (Fig. 10, element 96, Rear Cut; Col. 9, lines 44-55).

Referring to claims 20, 22, Bhargava teaches automation programming method, wherein the specified shape element is selected in the model display section (Col. 8, lines 14-32, left clicking will highlight a feature from the feature list, which includes the rear cut and fillets, and the corresponding portion of the drawing which includes the rear cut and fillets, i.e., see Col. 6, lines 27-62, modeling portion and corresponding browser portion; Col. 17, line 61 – Col. 18, lines 4; Col. 19, lines 35-41, or vice versa), wherein the machining shape information is automatically matched to the selected specified shape element (Col. 6, lines 1-20, data from user is stored in storage device, Col. 12, lines 7-14, date of last modification shows user modification matched to the feature; and/or Figs. 10 and 12, the "OK" button; and/or Col. 8, lines 45-58, user modification could change the location and amount of material removed from the model 66 by the rear cut feature), and wherein the machining shape information is shape data for a specified machining unit (Fig. 7-8, Col. 8, lines 45- Col. 9, lines 8, user modification of dimensions and/or user modification of depth; and/or, Fig. 12, Col. 10, lines 1-11, user modification of radius, fillet type, etc.; see also page 16, lines 2-21 of the instant specification and Fig. 10, wherein user modification includes adding letters, adding number, or checking a box).

Referring to claims 21, 23, Bhargava teaches automation programming method, wherein inserting of the machining shape information comprises inserting a name of a selected specified shape element (Fig. 10, element 96, Rear Cut, Col. 9, lines 44-55, wherein user modification includes changing name).

Referring to claims 10-12, 14-18, Bhargava teaches all of the limitations set forth above, however fails to teach automatic programming for an NC creation program-editing function for editing an NC creation program including a plurality of machining units and a machining program for each machining unit, and a program tree on which a plurality of machining program names relating to the respective machining units is displayed hierarchically according to the machining order. Referring to claims 10-12, 16-18, Bhargava teaches all of the limitations set forth above, however fails to teach the machining program corresponding to the machining program name specified on the program tree are displayed to perform editing. Referring to claims 21, 23, Bhargava teaches all of the limitations set forth above, however fails to teach inserting of the machining shape information comprises inserting corresponding machine code for a corresponding machining unit.

However, referring to claims 10-12, 14-18, Guenther teaches automatic programming for an NC creation program including a plurality of machining units and a machining program for each machining unit, and a program tree on which a plurality of machining program names relating to the respective machining units is displayed

hierarchically according to the machining order (Fig. 1, element 1; Col. 4, lines 32-43; Fig. 3, Col. 5, lines 36-52).

Bhargava and Guenther are analogous art because they are from the same field of endeavor, machining.

Therefore it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the program tree and creation of Guenther with the machining modeling of Bhargava. One of ordinary skill in the art would have been motivated to combine these references because Guenther teaches a program tree which permits a simple changing of programs and by way of this a high flexibilisation. Furthermore, Guenther teaches that by recognizing that the function control of a machine within a sequence does not change in machines with cyclically recurring sequences, and thus a master-slave principle may be used, therefore the hierarchies between the central control unit and the NC control unit may be fixed more unambiguously than with the known CNC control systems. Furthermore, since the individual function modules during a single sequence of the NC program may be called up several times, each processing function only needs to be carried out once in the NC program, therefore, the NC program according to the invention is thus simply constructed and does not unnecessarily require memory space and the danger of program call-ups leading to undesired interruptions of the subject machining procedure is avoided (Col. 2, lines 43 – Col. 4, lines 7).



Referring to claims 10-12, 14-18, Bhargava in view of Guenther teaches all of the limitations set forth above, however, fails to teach an NC creation program-editing function for editing an NC creation program. Referring to claims 10-12, 16-18, Bhargava in view of Guenther teaches all of the limitations set forth above, however, fails to teach the machining program corresponding to the machining program name specified on the program tree are displayed to perform editing. Referring to claims 21, 23, Bhargava in view of Guenther teaches all of the limitations set forth above, however fails to teach inserting of the machining shape information comprises inserting corresponding machine code for a corresponding machining unit.

However, referring to claims 10-12, 14-18, Ragnini teaches an NC creation program-editing function for editing an NC creation program (Page 2, paragraph 27-28, 34; Page 3, paragraph 34). Referring to claims 10-12, 16-18, Ragnini teaches a machining program corresponding to a machining program name specified on a directory are displayed to perform editing (Pages 2-3, paragraph 33-34; Page 3, paragraph 43; Page 2, paragraph 27-28). Referring to claims 21, 23, Ragnini teaches an NC creation program-editing function for editing an NC creation program, comprises inserting a name (Fig. 3, Page 2, paragraphs 27-28, CNC name) and corresponding machine code for a corresponding machining unit (Pages 2-3, paragraph 34, editing G-code programs associated with a CNC machine).

Bhargava in view of Guenther and Ragnini are analogous art because they are from the same field of endeavor, machining.

Therefore it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the programming of Bhargava in view of Guenther with the program editing of Ragnini. One of ordinary skill in the art would have been motivated to combine these references because Ragnini teaches users can load software for managing user preferences, storing and editing G-code sequences, such that the user can customize the G-code. Furthermore, Ragnini teaches users can define up to 1000 unique CNC machine profiles, and can store up to 1000 unique G-code programs within each machine profile, and the profiles and G-code programs can be easily and safely stored using readily available one-touch synchronization software (Page 1, paragraph 5-6).

***Allowable Subject Matter***

4. Claims 13, 19 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter:

While, Bhargava teaches a method, system and computer-readable recording medium that stores therein a computer program for plurality of machining units (Col. 6, lines 49-62; Figs. 4A, 4B, cut, drill), by using a program editing screen including a machining shape tree on which a plurality of machining unit names indicating a machining shape of the machining unit, as a unit of machining in which continuous machining is performed with the same main spindle and with the same tool, is displayed hierarchically according to a machining order; (Figs. 4A, 4B; Col. 7, lines 11-45,

graphical browser portion 64 and 64'), a model display section in which a product model (Fig. 14; Col. 10, lines 35-45), a work model (Figs. 4A, 4B, Col. 7, lines 11-45, modeling portion 62 and 62') and a machining shape model corresponding to the specified machining unit (Fig. 13, Col. 10, lines 12-34) are displayed three-dimensionally, an editor section in which machining unit data corresponding to the machining unit name specified on the machining shape tree is displayed to perform editing (Fig. 10, element 96; Col. 9, lines 44-55).

And, Guenther teaches automatic programming for an NC creation program including a plurality of machining units and a machining program for each machining unit, and a program tree on which a plurality of machining program names relating to the respective machining units is displayed hierarchically according to the machining order (Fig. 1, element 1; Col. 4, lines 32-43; Fig. 3, Col. 5, lines 36-52).

And, Ragnini teaches an NC creation program-editing function for editing an NC creation program (Page 2, paragraph 27-28, 34; Page 3, paragraph 34), and a machining program corresponding to a machining program name specified on a directory are displayed to perform editing (Pages 2-3, paragraph 33-34; Page 3, paragraph 43; Page 2, paragraph 27-28). Furthermore, while Ragnini teaches a display for editing a program and a program name (Page 2, paragraph 27-28), the program name does not correspond to the machining unit name specified in the editor section of Bhargava.

Referring to claim 13, 19, none of Bhargava, Guenther or Ragnini, taken either alone or in obvious combination disclose an automatic programming method and device

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having all the claimed features of applicant's instant invention, specifically including: an insertion unit that inserts a machining program name corresponding to the specified machining unit name in an insertion position specified on the program tree, and inserts a machining program corresponding to the specified machining unit name in an insertion position specified in the editor section. It is for these reasons that applicant's invention defines over the prior art of record.

### ***Response to Arguments***

5. Applicant's arguments filed 3/19/08 have been fully considered but they are not persuasive.

Applicant argues that Bhargava fails to teach inserting machining shape information. The examiner respectfully disagrees.

The examiner respectfully submits that the limitation of "machining shape information" is broad in view of the instant specification and the knowledge of one of ordinary skill in the art. The instant specification teaches shape information comprises screw, coarseness signs, grinding off, chamfering, chamfering of holes, hole information (drill, reamer, end mill, boring, and tapping), part number, material, names of articles, and the like (see page 16, lines 2-21 of the instant specification). Bhargava teaches modifying items in window 96 showing the feature properties of the Rear Cut, wherein it is clear to one of ordinary skill in the art in, in view of Fig. 10, that said modification includes adding letters, adding number, or checking a box, and further pressing ok (Fig. 10, Col. 9, lines 44-55). The examiner respectfully submits that modifying items in window 96 showing the feature properties of the Rear Cut, wherein said modification

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includes adding letters, adding number, or checking a box, and further pressing ok, is inserting machining shape information. Furthermore, Bhargava shows modifying Fillet Features in Fig. 12, wherein it is clear to one of ordinary skill in the art in, in view of Fig. 12, that such modification includes inserting a different "Radius", inserting the selection or non-selection of "Propagate Along Tangent Edges", inserting a different "Fillet Type", and further pressing ok. Therefore, the examiner respectfully submits that modifying Fillet Features in Fig. 12, wherein such modification includes inserting a different "Radius", inserting the selection or non-selection of "Propagate Along Tangent Edges", inserting a different "Fillet Type", and further pressing ok, is inserting machining shape information.

Applicant argues that Bhargava fails to teach displaying a machining unit corresponding to a cursor position in the editor section and in any one of the product model and the work model or both displayed in the model display section in a highlighted manner. The examiner respectfully disagrees. Bhargava teaches this limitation in a number of ways.

Bhargava teaches displaying "Rear Cut" in window 96 with an outlined box around the text "Rear Cut", wherein the outlined box is also clearly seen around the text "Rear Cut" of section 64 (Fig. 10, Rear Cut; Col. 9, lines 44-55). Therefore, the examiner respectfully submits that displaying "Rear Cut" in window 96 with an outlined box around the text "Rear Cut", wherein the outlined box is also clearly seen around the text "Rear Cut" of section 64, is displaying a machining unit corresponding to a cursor

position in the editor section and in any one of the product model and the work model or both displayed in the model display section in a highlighted manner.

Furthermore, the examiner respectfully submits that displaying "Rear Cut" in window 96 with an outlined box around the text "Rear Cut" is displaying a machining unit corresponding to a cursor position in the editor section in a highlighted manner (Fig. 10, Rear Cut; Col. 9, lines 44-55). Furthermore, the examiner respectfully submits that single clicking of the left button that will highlight the feature from the list in the window 64 and will highlight the corresponding portion of the drawing in window 62 (Fig. 10, Rear Cut in element 64 is highlighted therefore highlighting the rear cut of element 62, see Col. 9, lines 44-55; Col. 8, lines 33-44; Col. 8, lines 13-32), is displaying a machining unit in any one of the product model and the work model or both displayed in the model display section in a highlighted manner.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571)272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SPS

Sean P. Shechtman

May 18, 2008

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/Sean P. Shechtman/  
Primary Examiner, Art Unit 2121